

## ***Procuring Solar Energy for Federal Facilities: Practical Guide Webinar Transcript***

---

**[Blaise Stoltenberg]** Welcome to Procuring Solar Energy for Federal Facilities: Practical Guidance. I'm Blaise Stoltenberg from the National Renewable Energy Laboratory supporting the Solar Energy Technologies Program (SETP) and the Federal Energy Management Program (FEMP). Presenting with me today is Eric Partyka from Sentech/SRA International.

Today we will start with agency work that we've done so far, and how we've helped those agencies do solar projects. Then we will move into the major part of this presentation, which is talking about the Guide for Procuring Solar Energy, A Guide for Federal Facility Decision Makers. Then we'll touch on some opportunities, training opportunities, offered by FEMP. At the end, we'll discuss useful assistance opportunities for Federal agencies.

**[Eric Partyka]** I want to talk a little about the background that led up to the Fed Guide and what we've been doing in tandem, the Solar Program and FEMP, providing technical assistance to Federal agencies to help them procure solar and overcome market barriers. We've most recently been assisting the GSA with the American Recovery and Reinvestment Act incentive to install over PV projects. We've provided technical assistance that helped develop the RFPs, we helped review different scopes of work and looked at project financing and costs and analysis.

From this list, you can see that we've provided a lot assistance on a lot of different buildings. We're expecting at least 8 MW of new solar projects will be deployed as a result of this work, and we're hoping that up to 11 MW will eventually be installed on Federal facilities as a result of this work.

**[Blaise Stoltenberg]** I'd like to talk a little about our work with Alcatraz. First of all, Alcatraz is a high-profile, historic national park site with approximately four million visitors per year. In this project, the main goal of the National Park Service was to reduce emissions from the existing diesel generator system. The solution is a PV hybrid system, which will include about 307 kW of PV, battery and diesel generator design.

Technical assistance for this project has been provided by NREL over the past several years with funding from both FEMP and Solar Market Transformation. The technical assistance that we provided to the National Park Service in this project included site feasibility, design option simulations to inform the RFP and to evaluate proposed designs, and also technical review of the designs once they came in.

**[Eric Partyka]** Just a little background on what this Fed Guide is for and the audience and purpose. We really want this guide to be used by building-level procurement officers and facility managers as a tool, an introductory guide tool, to help people evaluate the potential to do solar projects and, hopefully, procure solar energy. It's a step-by-step process.

**[Blaise Stoltenberg]** First, a little bit about how the information is presented. The intention of the guide is to give a concise, easy to understand, step-by-step manual. It is not meant to be a comprehensive reference manual, but has links to detailed reference material where needed.

The information included in the manual was developed by Federal agency, industry and NREL solar procurement experts. And from their input, the guide contains recommendations and concerns to help the reader avoid pitfalls that others have encountered in solar projects.

On this slide, we'd like to look at the overall solar project process. This process was developed through our team of experts, and the overall process is a two-part process, the first part being planning and the second part being execution.

We'll go into more detail on each of these steps in the following slides, but I'd just like to touch on them briefly now.

In the planning process, we have five steps: identifying your goals; assembling your team; and evaluating the solar site information that you have so far up to this point; general project considerations, which is a catchall for many different items that you have to consider in a project; and then on to Step 5, which is selecting the financing contract and option, which can be a complex decision. Unless you have a lot of money appropriated for a project, you will have to finance and this can be a complex decision.

Once you've made that decision, we move on to Part 2, the execution part of the process, which is shown here on the right-hand side of the page. In Step 6 we have listed out several different options to do that.

**[Eric Partyka]** Before we get into all the steps and the processes, we try to give a little background on the laws and the executive orders that exist to give you, the user, some guidance on what might drive your decision-making process, what goals or directives you might be trying to reach based on past laws and executive orders.

We also look at the bigger picture and one of the most important topics that we learned through this process was that folks should be looking for some type of agency-wide screening to find out if your Federal agency has actually looked at your buildings in the past before you embark on these different steps and processes because some of the work may already be done.

Next, I'd like to talk about the first step in the planning process that's outlined in the Fed Guide. The basic question is why you are considering solar, what your goals are, what you are trying to achieve. Are you trying to reduce your greenhouse gas emissions? Are you trying to get LEED certification? We will try to run down some of the questions that we think folks should be asking themselves before they embark on this mission and the questions that you get out of that will drive your goals and whether solar really makes sense for you building or the objectives that you're trying to achieve.

**[Blaise Stoltenberg]** Assembling the team is obviously very important, because these are the people that will make the project happen or not.

On the left-hand side of the slide, we have some people you can consider for your project team. In the center of the slide, we have a picture of a successful solar team.

And just a little aside, if you happen to be in Washington, D.C. in an odd-numbered year, at the end of September, beginning of October, you should go down to the National Mall and see the Solar Decathlon competition where 20 teams are showcasing very innovative uses of solar.

On the right-hand side of the slide, we have success factors. These are success factors that came to us through our steering committee of experts identifying these three pieces for success in a team.

Now, first of all, it's very important to have a project champion. This is a person who, preferably, would be more higher up in the organization. They don't have to be involved with the day-to-day activity of a project, but they need to be there to help overcome barriers, when barriers present themselves.

Secondly, a contracting officer and attorney that have strong leadership characteristics. This means that when you're going through a solar project, there are many ambiguities in regulations and the law, so you need people that can work through those ambiguities and not get caught up and stuck in those ambiguities.

Third, team alignment, dedication and creativity. It's one thing to have productive debate, but it's another thing to make sure that your team are all aligned with the goals of what the project is supposed to be doing.

**[Eric Partyka]** Okay, the next step in the planning process is the site evaluation step, and within that, there are two parts. The first part is the solar screening. The solar screening is very important because it helps building managers identify what the potential of that site is and what the limitations might be. A good screening will give you a sense of what the size will be of the PV system, what the cost might be, how much energy it will make in a year. It's also really important to identify if there's any roof or warranty issues, any structural issues. The guide helps you understand some of those nuances for the screening.

The next level of screening is what's called a feasibility study, and this is a little bit more expensive process but it should give you a better sense of what you can really expect from a PV system. It can help you write the RFP, if you do go down the road of procuring solar energy.

**[Blaise Stoltenberg]** Step 4 in the first part of the planning process is what we call general project considerations. At this point, we have established our goals, put together a team and at least established that we have a reasonable solar site. Now there are a number of issues that need to be considered. It is recommended

that these issues be considered or addressed in planning part of the process since several of these issues can delay or even kill a project.

To briefly go over some of these; utility interaction, you want to understand what the utility is going to require from your system, either contractually or with equipment.

NEPA; most systems that we're going to be looking at or that you will be faced with will get a category exclusion, which is very easy to get, but it's important to look at this to understand what will be required for your site.

Site master plan review; it's important to understand if you have many buildings on your site, what is the plan 5 to 10 years out. You don't want to put a ground-mounted system where they're planning to build a building in 10 years since these systems last for 20 years, or put a system on top of a building that's slated to be torn down in 12 years.

Project incentives; make sure that they're real, that you're eligible for them, and also realize that time sensitivity of these incentives to make sure that you can get your applications in before they're ended.

A different, esoteric one is computer network connectivity authority. It's important to start getting that authority early in the process, if you need to get authority to do that. There have been several systems that have been completed but they can't be brought online because they either can't get the authority or it takes such a long time to get that authority.

**[Eric Partyka]** The last step in the planning process is to make a financing decision. This is pretty intricate and detailed. This chapter helps you understand what some practical avenues are for procuring solar energy that have actually been tested and are tried and true, and the Fed Guide actually provides real life case examples of projects for each one of these five procurement methods. We'll get into some more detail about each of those as we go through the slide further.

But at this point, it's important for the agency to make sure that they have the legal authority to enter into these five procurement methods. There can be variations. There can be new methods. But some agencies have their own rules about the types of long-term agreements that they can enter into, and this section helps define them and give you a baseline to start from. And before you go off into the execution stage, this chapter will help you understand what you can and can't do, in terms of procuring solar energy.

Next, we'd like to discuss Part 2 of the Fed Guide. In this section, we talk about executing a solar project. And again, we've listed the five procurement methods that are tried and true in this diagram or map, if you will, that outline the various steps that are involved.

One of the nuances and challenges to procuring solar energy is that each agency may have slightly different rules for procuring long-term energy contracts. For example, many civilian agencies have a 10-year limitation on long-term power purchase agreements, whereas defense agencies may have a 20-year authority to do long-term energy procurement.

**[Blaise Stoltenberg]** In the different financing mechanisms, different agencies have different authorities, as Eric mentioned. What I'd like to emphasize here is that there are workarounds to different restrictions for each agency, so it's important to contact experts to help through this decision and which financing mechanism to use.

I'd also like to point out that these five mechanisms are representative of mechanisms that have been successfully used by Federal agencies to procure solar. On another point, I'd like to point out that each point on the line for each mechanism is a step in the process. These are guideline processes. They're not rigid. It's not a rigid process for each one of these. Some are more rigid than others, but I'd like to point out that these are guidelines to do each financing contracting process.

On this slide, we're giving examples, or showing an example, of a financing mechanism and how it's presented in the guide. First of all, there's a description of the mechanism. Second, there are the itemized steps, and these itemized steps we saw in the previous slide on the map and each one of the stops on the map is one of these itemized steps in the process. Third, there is a list of case studies with links to more detailed information on

projects that have been done using this contracting mechanism. Fourth, there are pros and cons for each one of the mechanisms to help you understand the strengths weaknesses or limitations of each mechanism.

Then, we go on to do a detailed explanation of each of the itemized steps. These detailed explanations go through the objective of the step, what the objective is and what you're trying to do with step, an overview of the step and also any recommendations to help you through that step and avoid pitfalls.

**[Eric Partyka]** Lastly, in the Fed Guide, we have an appendix. We're providing some tools within an appendix that folks can rip out and use in meetings to help them check off the boxes to make sure they're taking the appropriate steps. If they're using a third party or an outside group, it also helps them ask the right questions.

We have a solar screening checklist, we have a design evaluation checklist and a PV commissioning checklist. The guide will explain a little more in detail about what screenings are and what design evaluations are and what commissionings are, but we just want you to see that those are there. And also, in the appendix, we provide more structured case studies of the five different procurement methods.

**[Blaise Stoltenberg]** On this side, we wanted to point out we wanted to point out available webinars, workshops and trainings that are available on the Web through the FEMP website. I encourage you to use these trainings and webinars. I have gone through several myself and recommend them. They're a good place to start for information. Also, there are links to case studies showing some projects that have been done using the mechanisms we have presented in the guide.

And lastly is the EERE Information Center. If you're doing a project and have questions, don't hesitate to call and get help to help you through the process.

**[Eric Partyka]** Moving forward, just wanted to talk a little bit about what we think will help agencies in the future, and we want to capture some feedback from agencies for the challenges that they're having to procure solar energy.

In the past, we provide a lot of technical assistance to the Federal agencies, but where we think the future is moving is into more of an aggregated procurement where you can procure larger bundles of solar energy, as opposed to one-off systems. We're open to ideas and questions here at the Solar Program and FEMP and NREL to see if there are ways that we can partner or work together on projects, if there's assistance that we can provide. We're opening the door to say if you have any ideas or projects, to contact us and we'd like to hear what they are.

**[Blaise Stoltenberg]** On this last slide is my contact information, if you'd like to contact me directly. Thank you for your attention.

**[End of Audio]**